

Driftless Area Hydrologic Systems Informational Workshop
November 5, 2009

Hach Hydromet Level and
Precipitation Sensors

Hach Hydromet manufactures water level and precipitation sensors that can be integrated into:

- Commercial flood warning systems
- New community systems
- Current warning systems

OTT Sensors:

Water Level:

- RLS radar sensor
- CBS bubbler
- PLS/Orpheus Mini pressure transducers

Precipitation:

- Pluvio² all weather precipitation gage
- Parsivel present weather sensor

OTT RLS Radar Level Sensor



OTT RLS Advantages:

- Narrow beam angle (+/- 6°)
- Wide range (2.6 to 115 feet)
- Very Accurate
- Low power consumption
- Non-Contact sensor: not affected by debris
- Lightweight (4.6 lbs)
- Flat antenna design
- SDI-12, 4-20 mA, and RS485 protocols
- Quick response time (20 seconds)

CBS: Compact Bubble Sensor



CBS Advantages

- **Very Accurate – 1000 calibration points**
- **Intelligent Pumping System – 5 million measurement cycles**
- **No dessicant pack required**
- **Uses current USGS orifice tubing**
- **Indirect drift-free measurement principle**
- **Easy installation**
- **No harm from lightning because no electronics are in the water**
- **System integration through SDI-12 and 4..20 mA interfaces**
- **Very low power consumption, very quiet operation, very compact for discrete installations**
- **Automatic and Manual Purge Options**

OTT Pressure Transducers



PLS and Orpheus Mini Advantages

- robust, durable ceramic cell
- automatic compensations for:
 - temperature
 - barometric pressure
- small diameter
- gravitational compensation
- SDI-12 or 4-20 mA outputs (PLS)
- Kevlar strengthened cable
- ITC telemetry system for Orpheus Mini

Pluvio² All Weather Precipitation Gage



Pluvio² Advantages

- weighing system: much better accuracy/resolution
- all forms of precipitation measured
- factory calibrated: no recalibration needed
- high volume capacity bucket
- measures high intensity rainfalls to 1.2" per minute
- common communication protocols
 - SDI-12
 - Pulse
 - RS -485
- no heating ring needed for snow
- most reliable available

OTT Parsivel

**Laser-based optical system
for simultaneous measurement
of particle size and particle velocity**



